

## **DIVISION 2 - SITE WORK**

### **SECTION 02486 - TREES, SHRUBS, AND GROUND COVER**

#### **PART 1 - GENERAL**

##### **1.01 - DESCRIPTION**

- A. For other requirements see General Conditions and General Requirements (Division 1).
- B. RELATED WORK SPECIFIED ELSEWHERE
  - 1. Section 02205 - EARTHWORK
  - 2. Section 02490 - SOD AND SEED
- C. SCOPE OF WORK  
Replace trees and shrubs damaged during construction.

##### **1.02 - QUALITY ASSURANCE**

- A. Plant names shall agree with nomenclature of "Standardized Plant Names" as adopted by the American Joint Committee on Horticultural Nomenclature. Names of varieties not listed therein shall conform generally with names accepted in nursery trade.
- B. Size and grading standards shall conform to those of the American Association of Nurserymen unless otherwise specified.

##### **1.03 - SUBMITTALS**

- A. Contractor shall submit written instructions to EPA's On-Site Representative recommending proper watering, weeding, cultivating, mulching, fertilizing, spraying and pruning of plants.
- B. Submit instructions to EPA's On-Site Representative for approval.

##### **1.04 - PRODUCT DELIVERY, STORAGE AND HANDLING**

- A. Take precautions customary in good trade practice in preparing plants for moving. Workmanship that fails to meet highest standards will be rejected. Plants shall be dug to retain as many fibrous roots as possible.
- B. Pack, transport and handle plants to insure adequate protection against injury. Each shipment shall be certified by state and federal authorities to be free from disease and infestation.

- C. Do not deliver topsoil in a frozen or muddy condition.
- D. Inspection of planting to determine its final acceptance will be made by EPA's On-Site Representative at conclusion of guarantee period.

## **PART 2 - PRODUCTS**

### **2.01 - MATERIALS**

- A. PEAT MOSS  
Baled sphagnum peat moss, brown acid reaction about 4 pH, low in content of woody material, free of mineral matter harmful to plant life, with water absorbing capacity 1100 to 2000 percent by weight; thoroughly pulverize before using.
- B. TOPSOIL  
See Section 02065 - CLEARING OF SITE.
- C. MULCH  
Shredded hardwood bark or equal free of sticks, stems or foreign matter.
- D. PLANT  
Plants shall be typical of their species or variety with normal well developed branches and vigorous fiber root systems. They shall be sound, healthy, vigorous plants, free from defects, disfiguring knots, sun-scale injuries, abrasions of the bark, plant diseases, insect eggs, borers and other forms of infestation. Plants shall be nursery grown and have been growing under the same climatic conditions as the location of this project for at least two (2) years prior to date of planting on this project. Plants held in storage will be rejected if they show signs of growth during storage.
  - 1. Balled and burlapped plants shall have a solid ball of earth of minimum specified size securely held in place by burlap and stout rope or nails.
  - 2. Potted plants shall have been growing in container at least one full growing season prior to use.
- E. STAKING WIRE  
12 gauge galvanized.
- F. HOSE  
Minimum 1/2" inside diameter. 2-ply fabric-wound black rubber.
- G. STAKES  
Sound hardwood 2" x 2" in actual cross-sectional dimension and 8' in length.

- H. CROSS BRACES  
1" x 4".
- I. TURNBUCKLES  
Turnbuckles shall be galvanized or dip-painted and have a 3" minimum lengthwise opening fitted with screw eyes.
- J. TREE PAINT  
Waterproof asphaltic base with antiseptic properties manufactured for use on tree wounds.
- K. TREE WRAP  
2-1/2" wide waterproof crepe tree wrapping paper, 30# per ream.

### **PART 3 - EXECUTION**

#### **3.01 - PREPARATION**

- A. Provide shrub pits at least 1' greater than diameter of ball and 2' greater for trees. Depth of pit shall accommodate ball of balled and burlapped material as shown. Remove earth dug from pits from site unless otherwise noted.
- B. Provide planting mixture used around balls and roots of plants of four parts planting topsoil to one part peat moss and five pounds commercial fertilizer per cubic yard of mixture.
- C. Provide ground cover beds of three parts planting topsoil to one part peat moss and fifteen pounds commercial fertilizer per 1000 square feet. Beds shall be minimum 12" deep.

#### **3.02 - INSTALLATION**

- A. Set plant material in planting pit to proper grade and alignment. Set plants upright and faced to give best appearance or relationship to each other or adjacent structures, with same relation to finish grade as before transplanting. No filling is permitted around trunks or stems. Backfill pit with planting mixture, gradually filling, tamping and settling with water. Form a ring of soil around edge of each planting pit to hold water.
- B. Mulch tree and shrub planting beds with mulching material minimum 3" deep immediately after planting. Thoroughly soak mulched areas. After watering, rake and leave in finished manner. Mulch ground cover beds with mulching material 3" deep prior to planting.

- C. Apply pre-emergent herbicide to ground cover beds to prevent growth of weeds; Dacthal or equal, applied as per manufacturer's recommendations.
- D. Planting shall be done at such times acceptable to nursery standard trade practice.
  - 1. In general, deciduous woody plants shall be planted in the Fall and Spring seasons whenever the temperature is above 32°F, the soil is in workable condition, and it is acceptable planting weather.
  - 2. Containerized plant material may be installed at any time with the prior knowledge of the EPA's On-Site Representative.
  - 3. Unless otherwise specified, conifers and broad-leaved evergreens shall be planted before new growth starts or after August 15.

### **3.03 - PROTECTION**

- A. Immediately after planting, wrap, stake, guy and protect designated trees. Trunks shall be inspected by EPA's On-Site Representative and approved prior to wrapping. Guy trees 3" and over in caliper and stake trees under 3" in caliper.
- B. Guying shall be done with stake and wired to side of trunk, per details. Stake to be about 60° and about two-fifths (2/5) of the height of the tree and anchored at the ground either to notched stakes which have been driven into the ground at an angle away from the tree so that the tops of the anchor stakes are below finished grade or (where underground utilities are within 4' of finished grade) to deadmen placed at least 3' below finished grade. Plants shall be plumb after guying.

### **3.04 - PRUNING**

- A. After planting, prune branches of deciduous stock to balance loss of roots in such a manner to preserve natural character appropriate to particular requirements of plant. Remove broken, damaged and unsymmetrical branches and sufficient over growth to insure healthy and symmetrical growth of new wood.
- B. Cut branches to be removed flush with trunk or main branch. Make cuts clean and on an angle. Paint cuts over 1" in diameter with tree paint.
- C. Prune evergreens only to the extent of removing broken or damaged branches. Undertrimming or heading back to meet size requirements is not permitted.

### 3.05 - MAINTENANCE

- A. DURATION  
Maintenance to begin immediately after each plant is planted and continue until final acceptance of the work by the EPA.
- B. SCOPE  
Maintenance consists of keeping the shrubs in a healthy, growing condition by watering, weeding, cultivating, pruning, spraying, tightening of guys, remulching and by other necessary operations of establishment.
- C. PROTECTION  
Protect the work from construction, leaving the area free of damage, depressions, ruts, and defects. Replace damaged or not accepted plants and repair all disturbed areas to the satisfaction to the EPA's On-Site Representative.
- D. WATER  
Water as required to maintain adequate moisture in the soil necessary to promote proper root growth. Unless otherwise directed or required by climatic conditions, provide the following:
  - 1. Water at least once a week between April 1 and October 21.
  - 2. Provide an additional watering per week during periods of dry weather or when directed by the EPA's On-Site Representative.
- E. INSECTS/DISEASE  
Provide remedial measures approved for good horticultural practice when required for control of damage from insects, infestations, disease, or rodents.

END